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REPORT
101-33

STRATEGIC PETROLEUM RESERVE AMENDMENTS OF 1989

MAY 25, 1989.—Ordered to be printed

Filed under authority of the order of the Senate of May 18 (legislative day, January 3), 1989

Mr. JOHNSTON, from the Committee on Energy and Natural Resources, submitted the following

REPORT

[To accompany S. 694]

The Committee on Energy and Natural Resources to which was referred the bill (S. 694) to amend the Energy Policy and Conservation Act to extend the authority for the strategic petroleum reserve, and for other purposes, having considered the same, reports favorably thereon with amendments and recommends that the bill, as amended, do pass.

The amendments are as follows:

1. On page 2, line 12, strike "one billion barrel" and insert "one billion barrels of".
2. On page 3, line 2, strike "'750,000,000'" and insert "'1,000,000,000'".
3. On page 3, line 3, strike "'1,000,000,000'" and insert "'750,000,000'".
4. On page 3, line 14, insert "(1)" before "If".
5. On page 3, line 21, insert "the President may extend" after "That", and strike "funding may be extended" and insert "finding".
6. On page 3, line 22 strike, "upon a finding" and insert "if he finds".
7. On page 3, line 23, insert "(2)" before "The".
8. On page 3, line 24, strike, "declaration" and insert "finding".
9. On page 4, line 1, strike, "declaration" each place it appears and insert "finding", and insert "(3)" before "When".
10. On page 4, line 5, insert "(5)" before "The".

29-010

S313-3

11. On page 4, after line 7, insert a new section 5 to read as follows:

OIL LEASING STUDY AND REPORT

SEC. 5. The Secretary of Energy shall provide no later than 90 days after enactment of this Act to the Senate Committee on Energy and Natural Resources and to the House Committee on Energy and Commerce a written, detailed report on potential financial arrangements (including long-term leasing of crude oil and storage facilities) as additional, alternative means of financing and Strategic Petroleum Reserve. The Secretary of Energy shall direct that in the course of conducting this study the appropriate officials shall:

(a) survey a broad array of potential financial arrangements;

(b) communicate with persons in the private sector who might be interested in leasing crude oil or storage facilities;

(c) initiate, in cooperation with the State Department, discussions with representatives of foreign governments and other entities as to the types of financial arrangements (including crude oil leasing arrangements) that would interest them, consistent with U.S. interests, and

(d) draft preliminary solicitations for proposed Strategic Petroleum Reserve financial arrangements (including long-term leasing of crude oil and storage facilities).

Such report shall include legislative recommendations and proposals to facilitate such financial arrangements (including long-term leasing of crude oil and storage facilities).

PURPOSE

The purpose of S. 694 is to extend the basic authority of the SPR for 5 years from June 30, 1989; expand the SPR's authorized size to one billion barrels; provide for predrawdown diversion authority of SPR oil; and provide for a study of alternative SPR financing arrangements.

BACKGROUND AND NEED

Extension of EPCA Authority: Title I of the Energy Policy and Conservation Act (EPCA) expires on June 30, 1989. There are several authorities and prohibitions in title I, but principal among them is the authority for operating, building, and drawing down the Strategic Petroleum Reserve (SPR). The United States has invested about $20 billion in the SPR, the major defense against an oil supply disruption, so it is imperative that the authority be extended.

A Billion Barrel SPR: When enacted in 1975, EPCA established a policy of creating an SPR of "up to one billion barrels", but no Administration has submitted specific plans beyond 750 million barrels capacity. About 570 million barrels of oil are now actually

stored in the SPR. Many advocated that the SPR should contain at least 90 days of net U.S. oil imports. Under international agreement, the U.S. is obligated to maintain stocks of at least 90 days of net oil imports.

U.S. oil imports are growing so fast that 90 days of supply will soon require more than 750 million barrels in the SPR. Seven hundred fifty million barrels in the SPR will cover 90 days of supply only if oil imports do not exceed 8.33 million barrels. EIA forecasts show we will exceed that import rate sometime between 1991–1996, depending on the oil price scenario. Under EIA's low world-oil price scenario, oil imports grow so fast that even one billion barrels won't provide 90 days protection by 1997.

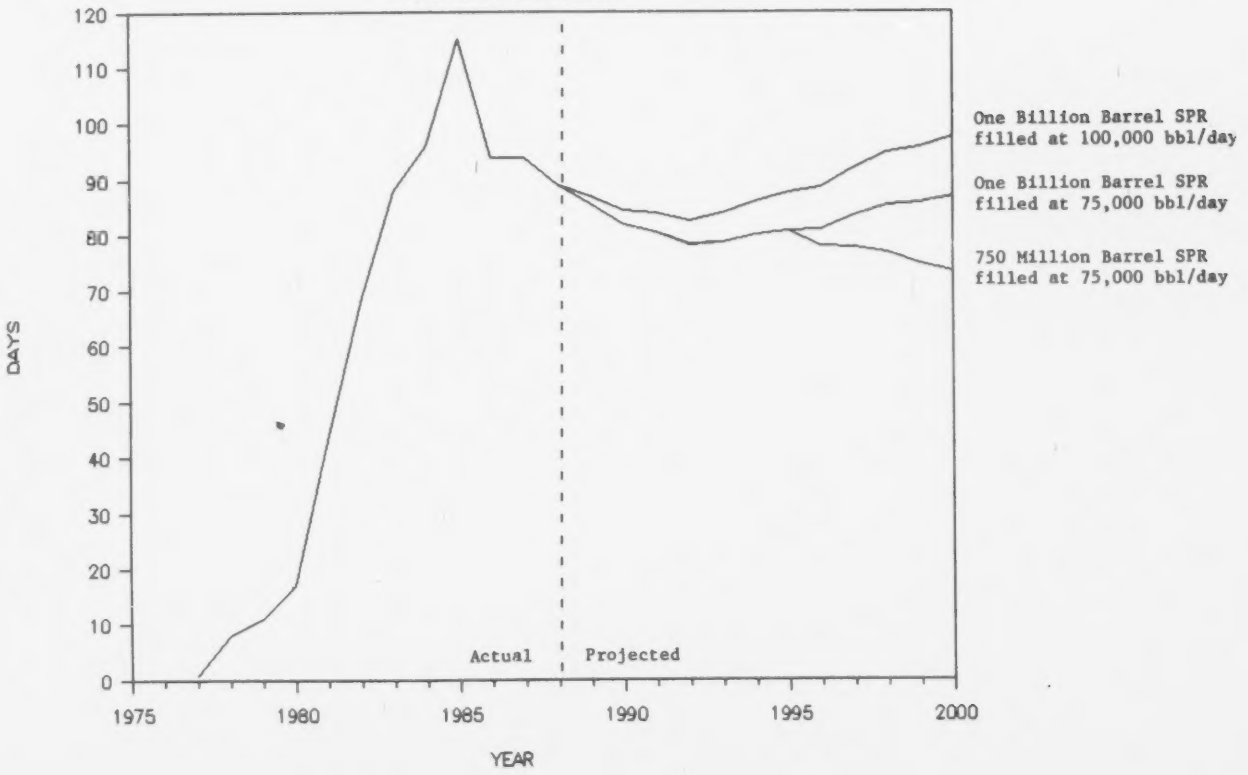
The following chart shows the number of days of protection provided by the SPR over time. (Days of protection are computed by dividing the amount of oil in the SPR by net oil imports, measured in barrels per day). As the chart shows, the protection provided by the SPR grew steadily from the creation of SPR in 1977 until 1985 when it peaked at 115 days. Since then, the days of protection have declined because oil imports have surged while the SPR fill rate has declined in face of budgetary pressures.

The chart shows three projections of the future days of imports provided by SPR, reflecting different assumptions on its ultimate size (750 million vs. 1 billion barrels) and fill rate (75,000 bbl/day vs. 100,000 bbl/day). Oil import levels underlying these projections are from EIA's base oil price forecast contained in their Annual Energy Outlook 1989, which was issued on January 10, 1989. The chart shows that current policy (a fill rate of 75,000 bbl/day and an ultimate size of 750 million barrels) will result in a decline in protection in the coming decade. As the lowest projection on the chart shows, protection declines from 86 days in 1989 to 74 days in 2000. Protection grows briefly in the mid-1990s, but the Reserve hits its maximum size of 750 million barrels in 1995, and protection declines thereafter.

The second projection assumes a continued fill rate of 75,000 bbl/day but an ultimate size of 1 billion barrels. In this scenario, the days of protection keep growing after 1995 as the Reserve grows beyond 750 million barrels. SPR protection would reach 87 days in 2000. The highest projection shown on the chart assumes a 1 billion barrel size with a higher fill rate of 100,000 bbl/day. An alternative means of financing SPR oil might easily achieve this fill rate. Under this scenario, the days of protection grow faster, and 90 days is reached and exceeded in 1997.

DAYS OF NET OIL IMPORTS PROVIDED BY SPR

Base Oil Price Scenario



SOURCE: EIA and Staff Projections

Recently, DOE contracted with the Oak Ridge National Laboratory to study the costs and benefits of expanding the SPR to one billion barrels. Their report, isued November 17, 1988, and entitled, "Preliminary Results of the SPR Size Cost-Benefit Study," by Paul N. Leiby and Russell Lee, examined *previous* studies on this subject and concluded:

> Previous studies of the optimal size of the SPR, including the original analysis by Teisberg (1981), have usually found that the optimal size is about 1 to 2 billion barrels (Lee et al., 1988, ch. 2). Typical among these is Hogan's (1983, p. 69) analysis which recommended "an aggressive stockpiling policy," with a target of 1.5 billion barrels.

The Oak Ridge study by Leiby and Lee noted that DOE conducted an ultimate size study of the SPR in 1982 that did not recommend amending the SPR plan at that time to expand to one billion barrels because there was still time to make the decision in the future.

However, the time for the decision is now ripe, if not overripe. In November, 1988, the ICF Corporation, under contract to DOE for a companion study to that of Oak Ridge, submitted a report entitled "Expansion of the Strategic Petroleum Reserve to One Billion Barrels," which stated:

> If the SPR is to be expanded to one billion barrels in the 1990s, then the expansion must be approved and funds must be appropriated now.

The 1988 Oak Ridge study by Leiby and Lee conducted a fresh analysis of the costs and benefits of expanding the SPR from 750 million barrels to one billion barrels and concluded:

> In general, the study found that a one billion barrel plan (Option 1) was the preferred alternative. Across the combinations of assumptions considered, the expected net benefits of Option 1 usually exceeded those of the 750 million million barrel plan. In some scenarios, the expected benefits of expansion were fairly large, over $8 billion, resulting in a net benefits to capital cost ratio greater than fifteen.

In addition, in the Committee's hearing on S. 694 a noted energy economist, Dr. John H. Lichtblau, President, Petroleum Industry Research Foundation, Inc. said the expansion to one billion barrels "is clearly a desirable national security measure."

The DOE has not yet adopted a policy position on expansion to one billion barrels, but indicated in the Committee hearing that they intended to provide their recommendations to Congress by the end of the year after an interagency study.

PREDRAWDOWN DIVERSION OF SPR OIL

Under current law, if an oil disruption occurred, any oil already purchased by the SPR and enroute for storage there must first be placed in the SPR before being sold in the drawdown. It would be more efficient to allow that oil to be auctioned while in transit and

sent directly to a refinery instead of being deposited in SPR and then withdrawn for distribution.

On June 20, 1984, the Committee considered and adopted an amendment to S. 1678, the Energy Emergency Preparedness Act Amendments of 1983 (introduced by Senator McClure) that provided for predrawdown diversion of SPR oil and a study on the benefits and costs of a 1 billion barrel SPR. The bill, however, was never enacted. These provisions were included in S. 1439, which Senator McClure introduced on June 26, 1987.

The DOE has recognized this limitation in existing law for several years.

ALTERNATIVE FINANCING ARRANGEMENTS

For at least a decade, proposals have arisen as to how the SPR could be financed at less cost to the Government, both as to facilities and as to oil acquisition. Because the U.S. Government has no asset side to its budget, the purchase of oil is treated like any other expense, even though a valuable asset is obtained. In 1981 Congress considered various alternative SPR financing proposals and in the end adopted what Sen. Johnston called "the least dishonest solution" and simply put SPR oil expenditures off-budget on the theory that oil, like gold, is an asset not an expense. In 1985, the Balanced Budget and Emergency Control Act of 1985" (Pub. L. 99–177), also known as the "Gramm-Rudman-Hollings Act," put SPR purchases back on budget.

The pressure of Federal budget deficits has had a dramatic effect on SPR oil purchases. In 1981 SPR purchases averaged 331,000 barrels per day, but the rate declined precipitously thereafter. The average fill rate from the beginning of this year through May 4, has been 63,721 barrels per day. The SPR fill rate is not keeping up with the rise in oil imports. In terms of days of protection from an oil supply disruption, the SPR is shrinking, not growing.

There are, according to GAO, at least 40 different types of SPR alternative financing proposals, such as issuing oil bonds, or selling the Naval Petroleum Reserves to finance the SPR. Critical to the analysis is how the Congressional Budget Office would score them.

A relatively new concept that seems to have substantial interest is oil leasing. In this concept the Federal Government would, rather than buying the oil, enter into a long-term contract to lease the oil for the SPR. The U.S. Government would have complete control over the oil during the term of the lease, so that in the event of an oil supply disruption, it would determine when the oil would be sold. This proposal could be coupled with a lease of private storage facilities as well. The effect on CBO scoring of budget outlays is substantial. Instead of scoring the entire purchase price in the year the oil is acquired, CBO would only score the annual lease payment as an outlay in the year it is incurred.

In 1987 a private firm offered DOE such a contract for a very large block of oil in a private storage facility with a lease rate equal to the Treasury bill rate. At that time the use of private storage facilities appeared duplicative of the storage site at Big Hill. In addition, although DOE already has the basic authority to lease oil, there are some legal impediments that may have to be clarified.

Legislative History

S. 694 was introduced on April 4, 1989, and referred to the Committee on Energy and Natural Resources. The full Committee held a hearing on May 4, 1989. The Committee marked up the legislation and reported it unanimously on May 17, 1989.

Committee Recommendations and Tabulation of Votes

The Committee on Energy and Natural Resources, in open business session on May 17, 1989, by unanimous vote of a quorum present recommends that the Senate pass S. 694. The rollcall vote on reporting the measure was 19 yeas, 0 nays, as follows:

YEAS	NAYS
Johnston	
Bumpers	
Ford	
Metzenbaum	
Bradley	
Bingaman *	
Wirth	
Conrad *	
Heflin	
Rockefeller	
McClure	
Hatfield *	
Domenici	
Wallop *	
Murkowski *	
Nickles	
Burns *	
Garn	
McConnell *	

* Indicates vote by proxy.

Committee Amendments

The Committee adopted technical amendments to S. 694, as introduced, and added a provision entitled "Oil Leasing Study and Report".

The Committee is concerned that the current budget climate will not support the SPR fill rates that are prudent in light of growing dependence on oil imports. After two hearings that focused on many alternative SPR financing mechanisms, the Committee believes that the concept of long-term lease agreements for the acquisition and storage of oil and possibility other financial arrangements deserve expeditious considerations at DOE.

Section-by-Section Analysis

1. Sec. 2. Extension of authority

Title I of EPCA contains the authorities for operation, expansion, and drawdown of the Strategic Petroleum Reserve (SPR), *all of which expire on June 30, 1989.* Section 2 of S. 694 would extend those authorities for 5 years. Title I of EPCA also contains other

authorities and prohibitions, unrelated to the SPR, that are also controlled by Title I's expiration date. S. 694 would extend these existing authorities and prohibitions as well.

2. Sec. 3. Enlargement to one billion barrels

(a) Amendment of SPR Plan

Section 3(a) would require the Secretary of Energy to amend the Strategic Reserve Plan by January 30, 1990, to prescribe plans for completion of a one billion barrel Reserve. The Secretary must consider among DOE's alternatives the leasing of privately owned storage facilities.

(b) Requirement to fill at highest practicable fill rate

Even if Title I of EPCA is extended, there is a provision therein (42 U.S.C. 6240(c)(3)) that explicitly expires at the end of FY 1989, which states ". . . the President shall carry out petroleum acquisition, transportation, and injection activities at the highest practicable fill rate achievable, subject to the availability of appropriated funds." This provision has served to prevent delay in the expenditure of SPR oil acquisition funds. Section 3(b)(1) of S. 694 extends that provision until FY 1995 or until 1 billion barrels are in storage.

(c) SPR fill-rate and Elk Hills oil cut-off

S. 694 would continue the 75,000 b/d fill rate requirement for the SPR until one billion barrels are in storage. Under current law if that fill rate is not achieved, then the U.S. government's share of oil from the Naval Petroleum Reserve at Elk Hills cannot be sold, except to the SPR. Congress waived this section for FY 1989 because appropriations were insufficient to achieve that fill-rate. S. 694 would also apply the Elk Hills sanction if DOE does not amend the SPR Plan by January 30, 1990, to provide for a one billion barrel SPR.

Sec. 4. Predrawdown diversion of SPR oil

Under current law according to the DOE, if an oil disruption occurred, any oil already purchased by SPR and enroute for storage there must first be injected into the SPR storage facilities before being sold in the drawdown. It would be more efficient to allow that oil to be sold while in transit and sent directly to a refinery instead of being deposited in SPR and then withdrawn. This section would provide the Secretary of Energy, after a Presidential finding, authority to sell this SPR oil, which is in transit, even though that oil has not first been injected into the SPR storage facilities. Moreover, under the Presidential finding, DOE could temporarily curtail or suspend execution of new contracts for acquiring oil to fill the SPR. During that temporary period the SPR fill rate requirements contained in section 160 (c) and (d) would not apply.

Sec. 5. Oil leasing study and report

The intent of this section is self-explanatory.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of costs of this measure has been provided by the Congressional Budget Office:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, May 23, 1989.

Hon. J. BENNETT JOHNSTON, Jr.,
Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for S. 694, the Strategic Petroleum Reserve Amendments of 1989.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: S. 694.

2. Bill title: Strategic Petroleum Reserve Amendments of 1989.

3. Bill status: As ordered reported by the Senate Committee on Energy and Natural Resources, May 17, 1989.

4. Bill purpose: The bill extends the expiration of Title I of the Energy Policy and Conservation Act of 1975 (EPCA), from June 30, 1989 to June 30, 1994. Title I authorizes construction and oil acquisition for the Strategic Petroleum Reserve (SPR).

S. 694 also requires the Secretary of Energy to prepare a plan for expanding the SPR from 750 million barrels to one billion barrels of petroleum products, and extends a requirement for a minimum SRP fill rate of 75,000 barrels per day—subject to availability of appropriated funds—until the reserve reaches the new goal of 1 billion barrels.

The bill adds a new provision to EPCA allowing the President to suspend SPR oil acquisition during a severe energy supply interruption. S. 694 also requires the Secretary of Energy to report on alternative means of financing the SPR, including the possibility of leasing crude oil and storage facilities.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1990	1991	1992	1993	1994
Oil acquistion:					
Estimated authorization level	440	465	494	531	572
Estimated outlays	369	459	487	521	562
Storage facilities:					
Estimated authorization level	181	189	197	205	213
Estimated outlays	99	167	192	200	208
Total:					
Estimated authorization level	621	654	691	736	785
Estimated outlays	468	626	679	721	770

The costs of this bill fall within budget function 270.

Basis of estimate: The estimated authorization levels for SPR oil acquisition are the sums necessary to achieve the intended minimum fill rate of 75,000 barrels per day, based on CBO projections of the costs per barrel for oil that is acquired for the reserve. The estimates of authorization levels for SPR storage facilities—operation, maintenance, and new construction—are CBO's baseline projections for the 1990–1994 period, reflecting the 1989 appropriation adjusted for inflation. These amounts are almost entirely for operation and maintenance of storage facilities, as the Congress has already appropriated the funds necessary for construction of a 750-million-barrel reserve. The estimated authorization levels do not include any construction funds for expanding SPR capacity from 750 million barrels to 1 billion barrels, because the additional capacity would not be needed for a number of years, the plans for any such expansion have not been developed, and some of the additional capacity could be obtained by leasing instead of new construction. CBO assumes that all amounts authorized are appropriated and that all spending will occur at historical rates.

Even though the bill extends Title I of EPCA only through June 1994, this estimate assumes full funding for fiscal year 1994, since most program obligations are generally made well before the end of the year.

The SPR currently holds about 570 million barrels. At a fill rate of 75,000 barrels per day, the reserve would reach 750 million barrels in fiscal year 1997, and it would reach 1 billion barrels in fiscal year 2006, assuming sufficient funding for both oil acquisition and storage facilities.

6. Estimated cost to State and local governments: None.

7. Estimate comparision: None.

8. Previous CBO estimate: None.

9. Estimate prepared by: Pete Fontaine.

10. Estimate approved by: C.G. Nuckols (for James L. Blum, Assistant Director for Budget Analysis).

Regulatory Impact Evaluation

In compliance with paragraph 11(b) of Rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 694.

The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses. No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy. DOE would have to conduct some paperwork to amend the SPR plan to provide for a one billion barrel SPR, and to comply with the section requiring an "Oil Leasing Study and Report".

Executive Communications

On April 4, 1989, the Committee on Energy and Natural Resources requested legislative reports from the Department of Energy and the Office of Management and Budget setting forth ex-

ecutive views on S. 694. These reports had not been received at the time the report on S. 694 was filed. When the reports became available, the Chairman will request that they be printed in the Congressional Record for the advice of the Senate.

Attached is the statement of the witness from the Department of Energy at the Committee hearing on S. 694.

Statement of
J. Allen Wampler
Assistant Secretary for Fossil Energy
U.S. Department of Energy
to the
Senate Committee on Energy and Natural Resources
May 4, 1989

It is my pleasure to appear before you today regarding the current status and outlook for the Strategic Petroleum Reserve (SPR). I will provide recent information and considerations regarding the fill rate and drawdown capability, reserve readiness, financing approaches and the size of our nation's Strategic Petroleum Reserve, and will provide specific comments on the bill S.694.

Fiscal Year 1990 Oil Acquisition Strategy

Our budget and acquisition strategy for fiscal year 1990 and the future involves both the budget requests for the SPR and the Naval Petroleum and Oil Shale Reserves and a proposal to sell the Government's interest in Naval Petroleum Reserves (NPR) Numbered 1 (Elk Hills) and 3 (Teapot Dome) with the formal transfer of title at the end of fiscal year 1990.

President Bush, in his budget transmittal to Congress on February 9, 1989, reemphasized the Administration's commitment to "restoring a balance between public and private activities that can best be performed by private enterprise...." Previously, President Bush had stated that:

> *"The American solution for the '90s means renewing our emphasis on a limited Federal Government. It means eliminating governmental functions that overlap with each other or compete with the private sector."*

As the Administration's revised budget proposal stated, divesting the two commercial oil fields will "accelerate the filling of the Strategic Petroleum Reserve at lower cost, increasing energy security and strengthening national security." The proposed legislation to sell NPR-1 and 3 is designed to combat the budget deficit, fill the SPR more expeditiously, and enhance the emergency energy reserves of the Department of Defense. The key provisions of this legislation are:

(1) The Secretary of Energy would be authorized to sell NPR-3 (Teapot Dome) and the Government's interest in NPR-1 (Elk Hills).

(2) The sale of Elk Hills would be made subject to an upfront cash payment by the buyer(s) of $1 billion or more.

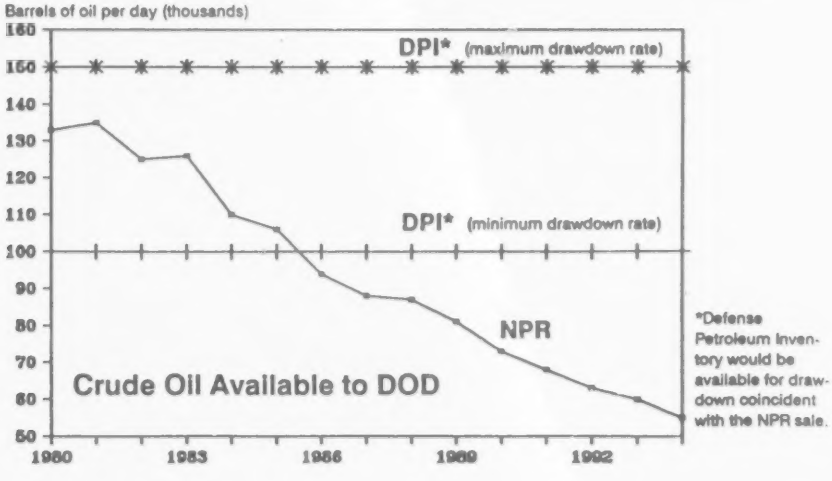
(3) The Elk Hills buyer(s) would be committed to delivering specification oil to the SPR at an average rate of 50,000 barrels a day beginning in fiscal year 1990 and continuing through fiscal year 1995, for a total of 109.5 million barrels.

(4) The Elk Hills buyer(s) would also be committed to providing 10 million barrels of oil for a Defense Petroleum Inventory during fiscal years 1991 and 1992. This inventory would have a significantly higher drawdown and distribution rate than the Naval Petroleum Reserves (as shown in the following chart). It would be located with the SPR and managed by the Petroleum Reserves Office, but would be available at the request of the Secretary of Defense.

In our view, this financing and acquisition approach will provide a realistic way to help meet deficit reduction targets, improve our civilian and defense energy emergency preparedness, and assure attaining 750 million barrels of oil in storage at the SPR in early 1996.

By exchanging, in effect, an aging oil field with declining production for upfront cash and the guarantee of oil deliveries to a more strategically located storage complex, our divestiture proposal will allow the government to enhance its strategic energy readiness while removing it as an operator in a commercial oil and gas business enterprise.

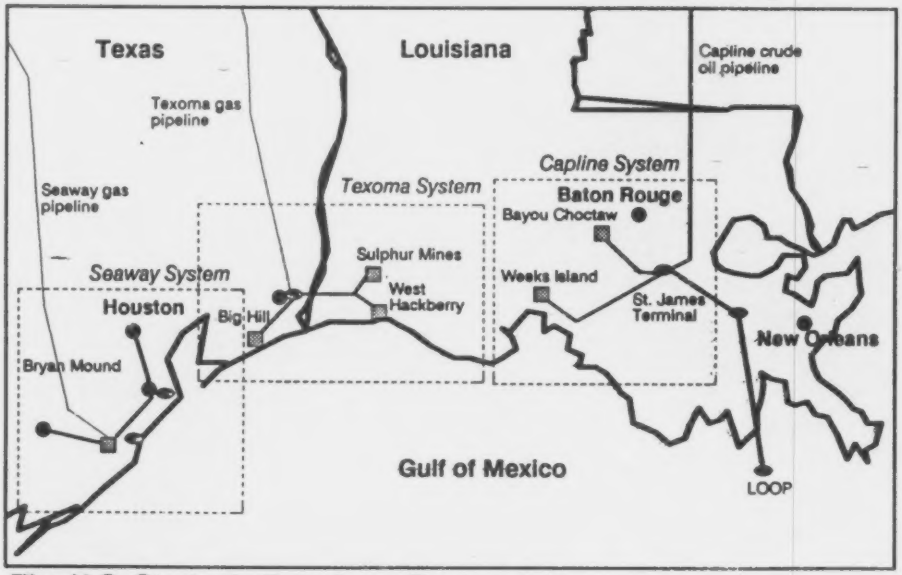
As the chart below shows, the DPI portion of the proposal would improve the military's ability to obtain crude oil supplies rapidly in the event of an emergency, and the benefits of that rapid access will become even more enhanced as production from the natural geologic formations of the Naval Petroleum Reserve declines in the future.



Status and Accomplishments

The SPR was authorized in 1975 by the Energy Policy and Conservation Act (EPCA), P.L. 94-163, as a response to the '73-'74 OPEC embargo. The authorization was extended in July 1985. The original authorization goal was an early fill to 150 million barrels within three years and a seven year target of 500 million barrels, with an ultimate fill goal of up to one billion barrels. The Executive Branch subsequently adopted a policy goal of 750 million barrels and provided Congress development plans for achieving that goal. The legislation containing the provisions authorizing the SPR expires on June 30, 1989.

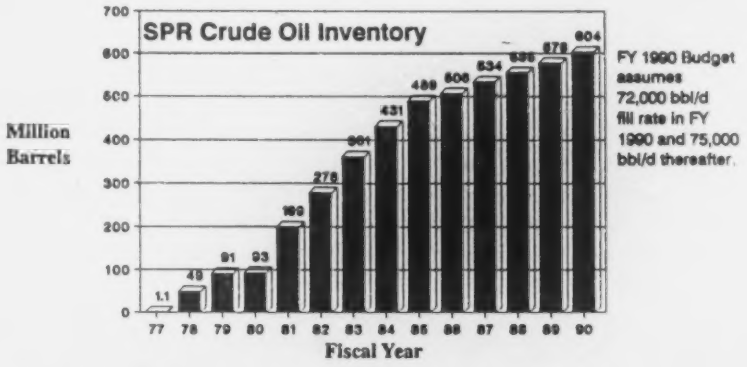
Over the last 12 years, the SPR has acquired and developed six sites with underground crude oil storage in salt domes along the coasts of Texas and Louisiana, and developed a Government-owned marine terminal on the Mississippi River at St. James, Louisiana. As the chart below shows, these storage sites are organized into three distribution systems and connected by DOE pipelines to commercial crude oil pipeline networks and marine terminal facilities for drawdown and distribution.



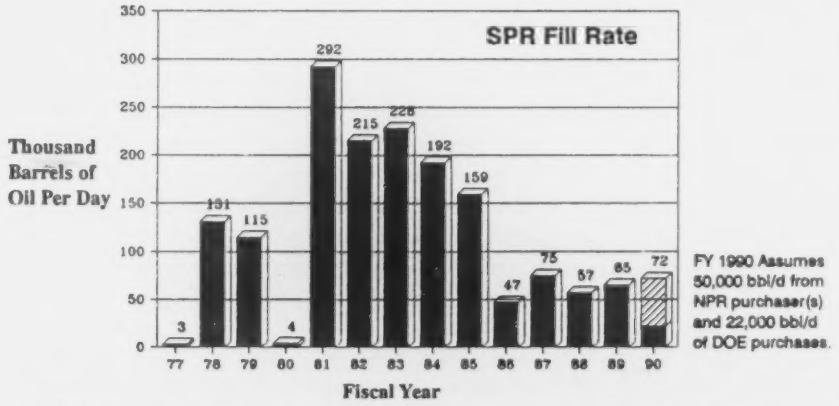
The U.S. Strategic Petroleum Reserve

All surface construction necessary to achieve 750 million barrels of crude oil in storage will be completed by the end of FY 1989. Development and fill of the Weeks Island and Sulphur Mines sites have been completed. Capacity development has been completed at the Bryan Mound and West Hackberry sites. Solution mining at the Big

Hill and Bayou Choctaw sites is continuing on schedule to achieve a full 750 million barrels of capacity by the end of FY 1991. Long range plans provide for relocation of the Sulphur Mines oil to Big Hill and decommissioning of the Sulphur Mines facility.



As of March 31, 1989, approximately 566 million barrels of oil were stored in the SPR. The average FY 1989 fill rate through March was 63,542 barrels per day. Based on our recent cost experience and the current level of oil prices, we are now projecting an average annual fill rate of about 65,000 barrels a day and a year-end inventory of approximately 578 million barrels. Oil purchases are currently being made from the Mexican state-owned oil company, Petroleos Mexicanos (PEMEX). The contract allows for changes to the volumetric lifting rate for the crude oil by mutual agreement. The price is set by formula and is changed daily to reflect the movement in spot market prices of Alaskan North Slope, West Texas sour and West Texas intermediate crude oils.



The Administration's FY 1990 budget proposes completion of a 750 million barrel Strategic Petroleum Reserve by 1996, acquired partly through the sale of the

Government's interests in NPR No. 1 (Elk Hills) and No. 3 (Teapot Dome). The FY 1990 budget submission assumed fill rates of 78,000 barrels a day in FY 1989, 72,000 barrels a day in FY 1990, and 75,000 barrels a day from FY 1991 through 1995, with completion of the inventory in early 1996.

Drawdown and Distribution Capability

The current SPR drawdown capability (i.e., the rate at which oil can be withdrawn from storage) is 3.5 million barrels a day. The on-going distribution enhancements program for increasing SPR distribution capability has, to date, created the capability to distribute 3.25 million barrels a day into the United States refining infrastructure for about four months and lesser amounts thereafter, with a sweet/sour crude oil mix that will enable most refiners to meet their desired product slate. Sale of SPR oil is to be made through a competitive sales process.

The six SPR sites are grouped into three distribution complexes – Seaway, Texoma and Capline – that serve both commercial pipeline and marine transport systems. Originally, each complex served a major interstate pipeline extending into the mid-section of the country. Market changes in the early 1980's forced the conversion of two of these pipelines to natural gas carriage, and they are no longer available for SPR use. To compensate for the loss of these pipelines, DOE has undertaken a major effort to enhance the SPR's distribution capability.

In the Seaway System, the distribution enhancement of Bryan Mound's drawdown capability is currently in progress toward a 1990 completion. The Bryan Mound to Texas City pipeline and marine distribution terminal modifications and contracts were completed in 1987. This project will increase the Seaway System's drawdown/distribution rate from 1.10 to 1.25 million barrels per day.

Distribution in the Texoma System, which groups West Hackberry, Sulphur Mines and Big Hill, is currently limited to the physical capability of the Sun Terminal facilities at Nederland, Texas. This limitation will be lessened with the addition of a distribution pipeline between West Hackberry and the Lake Charles refining area in 1989. DOE's marine distribution services procurement for Lake Charles was cancelled in 1988 because the offers received required construction of additional facilities in lieu of making existing facilities available for SPR drawdown and, therefore, greatly exceeded the project's budget. DOE plans a combined marine distribution services procurement for Lake Charles and Beaumont/Port Arthur in 1989. When complete, these enhancements will increase the drawdown/distribution rate for Texoma from 1.24 million barrels per day to 2.18 million barrels per day.

Distribution in the Capline System, which groups Bayou Choctaw and Weeks Island, is limited by the PADD II refiners' current reliance on domestic supplies and Canadian imports. As these supplies decline in the future, SPR Capline drawdown/distribution capability is projected to increase from 910,000 barrels per day to 1.07 million barrels per day.

The competitive sales process for distributing SPR crude oil, in conjunction with SPR drawdown readiness procedures, provides a capability to commence awarding contracts and releasing SPR oil approximately 15 days following the Department's issuance of a Notice of Sale. However, actual delivery this quickly, in an early stage of a disruption, would be subject to the oil purchasers' ability and willingness to readjust their supply and logistics plans to arrange commercial transportation. Most deliveries are expected to begin two weeks later.

Several concepts that could accelerate the release of oil to the market have been identified and remain under consideration. These include prequalification of bidders, contingent sales initiated before a Presidential determination of an energy emergency, and authority for the sale, prior to the President's emergency determination, of incoming cargoes destined for the SPR.

Comments on S.694

On April 4, 1989, S.694, *The Strategic Petroleum Reserve Amendments Act of 1989*, was introduced in the Senate. It provides for the extension of the authority in Title I of EPCA for a period of five years. In addition, it proposes new authorities and requirements concerning the SPR. The bill would require the Department of Energy to submit an SPR Plan amendment to prescribe the schedule and details for achieving a one billion barrel reserve, e.g., the implementing actions and timetable for adding 250 million barrels to the current 750-million barrel goal. The bill would reaffirm and establish that the fill rate for the SPR must be 75,000 barrels per day until the one billion barrels of oil is in storage. Finally, the bill would provide new authority to the Executive Branch that would permit the use of incoming SPR oil cargoes for emergency purposes prior to a drawdown decision.

Extension of EPCA

The Department supports an extension of the authority contained in Title I of EPCA which expires on June 30, 1989. We recommend that the length of the extension be five years, until June 1994.

The Department does not propose any changes to the existing law, other than a time extension. Generally speaking, the Department believes that the use of current

Presidential authority and the existing Distribution Plan will allow us to meet the nation's needs in an energy emergency. There is some merit in reexamining the existing authorities for the use of the SPR to counter the impacts of potential energy supply disruptions, particularly in light of events following the recent Exxon Valdez accident, but before making specific recommendations, the Department prefers to examine various options more thoroughly and discuss any possible amendments within the Administration.

Ultimate Size of the SPR

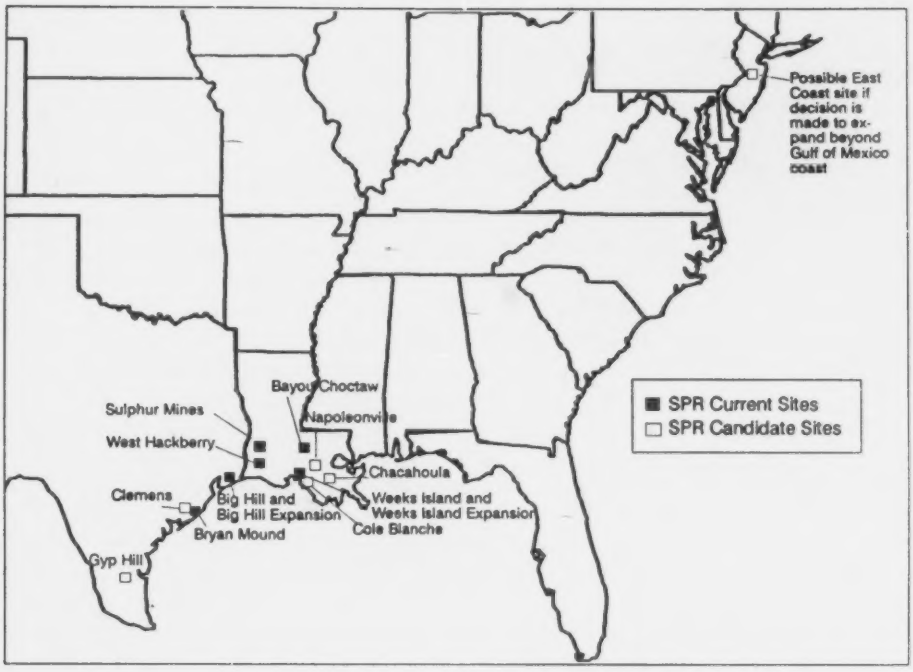
On April 6, 1989, the Department responded to a Congressional request to submit a study on possible steps to expand the SPR from its current goal of 750 million barrels to one billion barrels. The Department's "*Report to Congress on Expansion of the Strategic Petroleum Reserve to One Billion Barrels*" identifed candidate sites and provided preliminary technical descriptions and cost estimates.

As the report stated, expanding the SPR to one billion barrels would require substantial budgetary resources – more than $6 billion for major new storage and distribution facilities and crude oil at today's prices – and over ten years to complete. Prior to finalizing an Administration position on expanding the Reserve, DOE indicated in its transmittal to Congress that an interagency study group will undertake a detailed policy analysis of the costs and benefits of expanding the reserve. The Administration's position will be forwarded to Congress later this year.

The report indicated that, should a decision be made to enlarge the Reserve, the Gulf of Mexico coastal area will likely remain the preferred choice for new storage sites. Stockpiling crude oil in cavities created from underground salt deposits remains the key to low-cost, effective storage.

Expanding an existing Gulf coast site, for example, likely would cost $3.50 to $4.50 per barrel of storage capacity; developing a new Gulf coast site would cost $5.00 to $7.50 per barrel. By contrast, based on current knowledge, locating a new site where salt cavern storage was not possible could cost $8.80 to $10.50 per barrel if underground concrete tanks were used, and as much as $15 per barrel if aboveground steel tanks were required.

The DOE report also indicated that should a one-billion barrel Reserve be needed, sufficient sites exist along the Gulf coast to accommodate the additional crude oil. DOE screened 66 of the most suitable salt domes (selected from among the approximately 550 onshore and offshore salt domes known to exist in the Gulf coast region) and made a preliminary identification of seven sites as the best candidates, as shown by the map on the next page.



The Department believes that the interagency study, discussed above, should be completed and analyzed before a decision is made to amend the SPR plan as proposed by the legislation.

SPR Fill Rate

S.694 would require that the SPR be filled at 75,000 barrels per day until one billion barrels of oil are in storage. Under current law, the SPR must be filled at an average rate of 75,000 barrels per day until 750 million barrels are in storage or production from the Naval Petroleum Reserve at Elk Hills must either be used for SPR fill or shut in. The Fiscal Year 1989 Appropriations Act waived this requirement for that fiscal year, due to budget constraints associated with deficit reduction.

We recognize the concern of the authorizing committee that multi-year fill of the SPR be assured and at a reasonably high rate. The Department concurs with that objective and supports a fill rate as high as the budget will allow. However, increasing the fill rate solely through direct appropriations undoubtedly will be hampered by the need for budgetary restraint. As an alternative, the Department has proposed that fill be ac-

complished through guaranteed receipt of 50,000 barrels per day of specification-grade crude oil from the buyer(s) of the Elk Hills Naval Petroleum Reserve. Together with oil purchased with appropriated funds, our divestiture approach would assure a stable fill of 75,000 barrels per day until the SPR inventory reaches 750 million barrels.

Predrawdown Diversion of Oil

The predrawdown diversion of incoming cargoes destined for the SPR could help to accelerate the release of oil to the market. This option remains under active consideration by the Department. Under existing law, any quantity destined for the SPR before a drawdown decision is made could either be placed in storage to become part of the oil sold at drawdown, or contract deliveries could be terminated, thereby releasing some of the oil into the marketplace sooner than could be accomplished by the normal SPR drawdown and sales process. Legislation would be necessary to permit the incoming oil to be sold in the U.S. market in advance of a drawdown decision. With regard to the particular provision on this subject in S.694, I note that it requires a finding that the world price of crude oil *already has increased* substantially due to a potential supply interruption.

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This concludes my comments on S.694. I would also like to comment on some related issues of interest to the Committee.

Export of SPR Crude Oil

Questions have been raised recently about the possible export of SPR crude oil. In certain limited instances, exports of SPR crude oil could be desirable, depending upon the nature of the disruption and the ability of domestic refiners to make up any product import quantities that are interrupted.

For example, it might be desirable to export SPR crude if such exports are combined with a requirement for delivery of roughly equal volumes of refined products into the domestic market. SPR crude thus would be used to augment domestic refining capacity. Permitting distributed SPR crude oil to be refined at certain foreign facilities and returned on an approximately equivalent exchange basis to the U.S. or directly exchanging the crude oil for refined products are both alternatives that could add to emergency capabilities and which should be carefully examined.

Regarding the current authorities to export distributed SPR oil, the SPR contains crude oils that are subject to different export control laws (e.g., imports, Naval Petroleum Reserve and Alaska North Slope crude oils). These crudes have not been segregated in storage in a manner that corresponds to the multiple statutes governing

their export. These various types of oil are likely to become even more commingled in a drawdown.

There are no existing SPR-specific statutory or regulatory export authorities which provide for the export of SPR crude oil. The Department of Commerce regulations possibly could be amended to allow the export of crude oil that had been imported to fill the SPR. Waiver of export controls on all of the domestically produced oil in the SPR (if such oil could be identified), however, could require legislation.

There are exceptions, however. Existing law provides that all legal restrictions on exporting crude oil can be waived if such exports are pursuant to the emergency sharing system of the International Energy Program, or are required to fulfill U.S. obligations under the U.S.-Israeli supply agreement.

Domestic Refining Capability and Product Imports

Utilization rates for U.S. refinery distillation units have been climbing for several years. In 1986, they reached an average of 82.9%; in 1987, they edged upwards to 83.0% and to 84.4% in 1988. (These are, however, overall averages; the utilization rates and conditions for specific products, locations and the seasons of the year differ.) Absent the construction of new refining capacity, and considering the decline in domestic crude oil production while demand increases, future supply disruptions could affect specific product availability more significantly than in the past. The upward growth trend in product imports is expected to continue at least through the late 1990s. In 1987, 15.4% of all product imports came from Arab OPEC nations, another 17.6% originated in other OPEC countries (principally Venezuela), and the remaining 67.0% came from a wide diversity of sources.

The world's major refining centers are expected to improve their ability to make similar products out of more varieties of crude, particularly the increasingly heavier crudes, as refining capacity becomes more sophisticated. World refining and product markets also are much more interconnected than in the mid-1970s, with the present diversity in product supply expected to continue, however crude oil production likely will become more concentrated in the Middle East, and producing countries are expected to continue their move into downstream refining and marketing activities.

The Department's April 1989, "*Report to Congress on Expanding the Strategic Petroleum Reserve to One Billion Barrels*" examined the practicality of storing products as part of a possible expansion of the SPR in the future. Its findings continue to indicate that crude oil storage is simpler and less costly than product storage. The analysis did not identify any compelling reason for product storage since crude oil storage appears to deal effectively with potential supply disruption scenarios. The Department

does believe that sound emergency preparedness policies require storing the proper mix of crudes in the SPR to ensure both flexibility and compatibility with the widest variety of U.S. refinery needs, and giving continued attention to the adequacy of the ultimate SPR size.

Regional Reserves

Members of Congress recently have introduced two identical bills, S.668 and H.R. 1418, both dealing with regional reserves. Each provides for a regional petroleum reserve beginning in FY 1990 for each region described in subsection (a) of EPCA Section 157 which contains a state which imports more than 50 percent of its demand for crude oil or petroleum products and into which the oil or product is transported exclusively by means other than pipeline, rail or highway. The legislation requires that the reserves be located in each state which meets this criteria.

The proposed bills present some problems of interpretation. The reference to a region described in Section 157(a) could be read as applying only to regions which meet the 20 percent import test set out in the Section. Under that interpretation, Hawaii would not qualify, but 14 states in four East Coast regions might qualify if they satisfied the exclusivity test. We surmise that the intent of the bills is to compel SPR oil storage in Hawaii, but the bill does not seem clearly drafted to accomplish that result. Hawaii would appear to meet the bill's other criteria, at least with regard to its crude oil imports. Assuming that these other criteria are meant to apply separately to crude oil and each refined product, a preliminary review of available data suggests that Puerto Rico and the Virgin Islands would qualify for crude oil storage and does not rule out the possibility that some states on the East Coast also may satisfy these other criteria.

In any event, the Department does not support passage of this proposal. DOE's analyses since 1975, including the recently released "*Report to the Congress on the Expansion of the Strategic Petroleum Reserve to One Billion Barrels,*" indicate that the SPR's centralized Gulf Coast storage can provide cost-effective protection for all regions and non-contiguous areas in all but the most severe circumstances.

Establishment of Government-funded and/or Government-owned regional reserves as envisioned in H.R. 1418 and S.668 would be a more expensive and inefficient means of supply cutoff protection. Petroleum storage in underground salt dome caverns is an economical and secure means for storing crude oil. In North America, salt domes are found almost exclusively in the Gulf Coast region, an area whose attractiveness as an emergency oil storage location is increased by its close promixity to refining centers and oil distribution terminals.

It is possible that, depending on the interpretation of the legislation, some states could store more than one product in addition to or instead of crude oil. Long-term petroleum product storage has several disadvantages relative to crude oil. These include the loss of flexibility to respond to changing product demands, the need to rotate stocks to avoid product deterioration, and the added cost of segregated product storage and distribution capabilities. The Department, however, will continue to monitor U.S. refining trends and U.S. product vulnerabilities and, if necessary, will advise the Congress on the need for future policy changes.

Alternative Financing

We understand that questions have been raised regarding possible alternatives to financing the continued fill of the SPR through annual appropriations.

The Department has given a considerable amount of attention to alternative financing and oil acquisition, including leasing proposals, generated from within the Department and by consultants and corporations, and has provided substantial data to the General Accounting Office for its recent review of this subject.

There seems to be no painless way to invest in an expensive oil inventory when there are competing national needs, policies and a significant budget deficit problem. Divestiture of the Naval Petroleum Reserves as an alternative acquisition method proposed by the Administration, with payment in the form of: 1) oil to expedite SPR fill, 2) oil to strengthen emergency energy deliverability to defense, and 3) upfront cash, is an attractive option if Congress agrees to the divestiture. Absent Congressional action to authorize divestiture, the resulting delay in SPR fill could expose the Nation to more risk from rising imports than if the proposal were accepted, or to higher costs of Strategic Petroleum Reserve fill, if oil is purchased later and today's prices, which may turn out to be lower than future prices, are lost to us.

In general, there appear to be two common features of the competing alternative financing proposals. First, most people recognize that the purchase of oil for the SPR is not consumption or a depreciating investment. Over the long term, it is likely to be an appreciating inventory investment – particularly at the time of a disruption. Second, alternative arrangements for purchasing oil for the SPR inventory often imply both a current cost and a future outlay associated with the financing cost. In general, the proposals appear to imply that net present value of the future oil appreciation to be foregone by the Government is greater than the value of the cost reduction offered to offset private business risk and provide business profits. We are reviewing the recent General Accounting Office report to identify possible opportunities that might provide greater benefits to the Government, but we are finding that the NPR divestiture proposal is superior as an effective means to assure multiyear fill of the SPR.

Opportunities

I would like to close by itemizing some opportunities before us. We can:

- Continue fill of the SPR at the fastest possible rate by expeditiously acting on the Administration's divestiture proposal that provides for extra fill while recognizing budget constraints;
- Continue to develop storage capacity to the planned level of 750 million barrels;
- Continue the on-going distribution enhancement program to achieve a distibution capability of 4.5 million barrels a day;
- Continue to train and exercise personnel, systems and procedures for drawing down the SPR to assure mission readiness;
- Continue a public awareness program to acquaint industry and the public with the mission of the SPR and how it will function at the time of an energy emergency and the economic benefits provided; and finally
- Maintain efficient response plans for flexible use of the reserve, if and when required.

This completes my formal statement, Mr. Chairman.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of Rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill S. 694, as ordered reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

TITLE I, ENERGY POLICY AND CONSERVATION ACT

PUBLIC LAW 94-163, AS AMENDED

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SEC. 159. * * *

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(i) The Secretary shall by January 30, 1990, amend the Strategic Petroleum Reserve Plan to prescribe plans for completion of storage of one billion barrels of petroleum products in the Reserve. Such amendment shall comply with the provisions of this section and shall detail the Secretary's plans for the design, construction, leasing or other acquisition, and fill of storage and related facilities of the Reserve to achieve such one billion barrels of storage. Such amendment shall not be subject to the congressional review procedures contained in sectin 551 of Public Law 94-163 (42 U.S.C. 6421). In assessing alternatives in the development of such plans, the Secretary shall consider leasing privately owned storage facilities.

SEC. 160.

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(c)(3) Notwithstanding paragraph (2), beginning in fiscal year 1987 and continuing through [fiscal years 1988 and 1989] *fiscal year 1995* until the quantity of crude oil in storage within the Reserve is at least [750,000,000] *1,000,000,000* barrels, the President shall carry out petroleum acquisition, transportation, and injection activities at the highest practicable fill rate achievable, subject to the availability of appropriated funds.

(d)(1) Notwithstanding any other provision of law, no portion of the United States share of crude oil in Naval Petroleum Reserve Numbered 1 (Elk Hills) may be sold or otherwise disposed of other than to the Strategic Petroleum Reserve (either directly or by exchange) during any fiscal year, except as provided in paragraph (2), unless—

(A) the quantity of crude oil in storage within the Strategic Petroleum Reserve is at least [750,000,000] *1,000,000,000* barrels; or

(B) acquisition, transportation, and injection activities for the Reserve are being undertaken for that fiscal year at a level sufficient to assure that crude oil in storage in the Strategic Petroleum Reserve will be increased at an average rate of at least 75,000 barrels per day for the fiscal year[.]*;*

(C) after January 30, 1990, the Secretary has amended the Strategic Petroleum Reserve Plan as required by section 159(i).

SEC. 161.

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(h)(1) If the President finds that a severe energy supply interruption may be imminent and that the world price of crude oil has, as a result, increased substantially, then the execution of new contracts for petroleum products for injection into the Strategic Petroleum Reserve may be curtailed or suspended for not to exceed thirty days, and the provisions of sections 160 (c) and (d) shall not apply: Provided, however, That the President may extend such funding for additinal thirty-day periods if he finds that the conditions that justified the initial finding still exist. (2) The period during which such Presidential finding is in effect, and the quantity of any petroleum products involved, shall be disregarded in applying the provisions of such subsections for periods following the effective period of such finding. (3) When such a finding is in effect, the Secretary is authorized to sell, in accordance with rules or regulations which he shall promulgate, any petroleum products acquired for storage in, but not injected into, the Strategic Petroleum Reserve. (4) The receipts from such sales shall be deposited in the "SPR Petroleum Account" under section 167 and shall be subject to section 167(d).

SEC. 171. Except as otherwise provided in this subchapter, all authority under any provision of this subchapter and any rule, regulation, or order issued pursuant to such authority, shall expire at midnight, [June 30, 1989] *June 30, 1994,* but such expiration shall not affect any action or pending proceedings, civil or criminal, not finally determined on such date, nor any action or proceeding based upon any act committed prior to midnight, [June 30, 1989] *June 30, 1994.*

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